

The average precipitation and departures from the normal on the different watersheds are given in the following table:

Watershed.											
Green.		Grand.		San Juan.		Little Colorado.		Gila.		Mimbres.	
Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.
0.29	-0.57	0.81	-0.54	0.62	-0.55	0.27	-0.59	0.41	+0.02	0.35	+0.09
										0.31	-0.13

#### MISCELLANEOUS.

The average amount of sunshine in percentages, with departures from the normal, was as follows: Grand Junction, 78, +9; Durango, 77, +5; Phoenix, 90, +3, and Yuma, 95, +1.

The relative humidity reported was: Grand Junction, 34, -12 per cent; Durango, 45, -6; Phoenix, 36, +3; and Yuma, 40, +2.

#### RIVERS.

In the Colorado stages were slightly above the normal, except near the Gulf of California. The breaking up of an ice gorge in the Grand on the 1st of the month carried away a bridge in course of construction near Radium. As usual at this time of year the fluctuations in the volume of water discharged followed closely the fluctuations in temperature.

#### DAMAGE BY FROST IN WESTERN COLORADO.

By E. S. NICHOLS, local forecaster, Grand Junction, Colo.

The only night during the month when the fruit in this district was in serious danger was that of the 23d. Warning of freezing temperature during the night was received

with the morning forecast from Denver on the 23d. As conditions shown on the morning weather map were very threatening, fruit growers were warned to prepare to smudge their orchards. The local forecast issued in the morning warned of temperatures several degrees below freezing at Grand Junction, Vineland, and Palisade; below 25° in the middle and lower Grand Valley; and below 20° in Delta and Montrose Counties and at Rifle. The temperatures that occurred were very close to the limits set. Apples were not sufficiently advanced, it was thought, to be materially injured in the middle and lower Grand Valley; so pears, which were in full bloom, were practically the only fruit smudged. However, on the following day it was found that apples had been damaged considerably, although generally sufficient were left to make a good crop.

The exceptional damage to apples at the temperatures that occurred (generally from 23° to 25°, although 21° occurred near Fruita) in the middle and lower Grand Valley was probably due to the extreme dryness of the air, the evening dew point at Grand Junction being only 3°. Extreme dryness during a freeze must be injurious to fruit buds and blossoms for the following reasons: First, the depression of the surface temperatures of the buds and blossoms is increased because cooling by radiation is rapid. Second, cooling by evaporation of moisture from the buds and blossoms is also rapid. These two effects may together produce a material depression below the air temperature. Third, the drying out of the buds and blossoms when they are thawing in the morning sunshine, and even during the night when they are still frozen, is especially rapid in very dry air. It seems likely that open blossoms are more easily killed than those "in the pink" just ready to open, not only because their tissues are more tender and their interiors are more exposed to low temperature, but also because drying out of the vital parts is more rapid.

Growers in this vicinity have heretofore been advised not to let temperatures get as low before smudging on dry nights as on ordinary ones; but more attention should be paid to moisture conditions in the future.